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AN
ESSAY
ON
ATMOSPHERIC VICISSITUDES,
AND
THEIR INFLUENCE ON THE BODY IN HEALTH
AND DISEASE.

By JOHN EPPS, M. D.

Read before the Westminster Medical Society, November 1st, 1834.

MR. PRESIDENT—Viewing man as he is placed in this world, one fact prominently presents itself to the attention, namely, the mighty influence upon his condition, exerted by the circumstances by which he is surrounded. This influence, in relation to his mind, is so great, as to give some reason for the opinion (erroneous in the sense in which it is generally entertained), that man is the mere creature of circumstances. This influence exists equally in reference to his body; and the object of the present Essay is to develop that portion of this influence, connected with one most important agent, continually acting on him, namely, the ATMOSPHERE.

In considering this agency of the atmosphere, I do not intend to refer to this as connected with the peculiar composition of the atmosphere, or with the essential part it performs in the fulfilling those duties associated with the pulmonary system. I do not refer to it as affording to us so many sources of pleasure, being the medium by which sounds, odours, and other influences so agreeable to us as intellectual and moral beings, are conveyed.

The agency to which I particularly refer, is that which is known under the name of CLIMATE. When I use this term, however, I beg to be understood as using it in a wider

sense than that indicated, either by the definition usually given by geographers, or even by that definition, still more comprehensive, by Dr. Thomson. "Temperature, therefore," writes Dr. T., "arising from the direct and the radiated beams of the sun, influenced by latitude and altitude, constitute Climate." By the term climate, I understand all those modifications of the atmospherical condition which can be produced by terrestrial operations, among which, it is true, position, in regard to the sun is prominent: others are the state of the soil, whether argillaceous, sandy, alluvial, or rocky: whether wooded or not wooded: whether drained or not drained: whether flat or high grounds generally prevail: whether rain is in excess or in deficiency; irregular or regular in the periods of its fall; soft or violent rains: whether the land is much intersected with rivers or not: surrounded or not surrounded by sea: to these may be added occupations, so far as connected with a pure or an impure atmosphere. All these circumstances have influence on climate.

The influence of these circumstances, either individually or collectively, in affecting the climate, or in constituting the climate, is evidenced by the fact, that the climate of this country has been changed dur-

ing the last hundred years much more than can be accounted for by any change in regard to its position to the sun.

Need we notice any fact more than the one relating to the banishment of the plague from this great city by the great fire of London; which came, as Dr. Combe poetically remarks, in the place of knowledge, and by destroying the crowded lanes and other sources of impurity, procuring for its inhabitants a perfect and permanent immunity from one of the deadliest forms of disease, taught them that such awful visitations are not the wanton inflictions of a vengeful Providence, but the direct consequences of non-observance of the conditions of health.

In examining the influences exerted by climate, or atmospheric vicissitudes on the human being, the following order will be adopted:—First, To notice a few natural phenomena, premonitory to, and coincident with, such vicissitudes: Second, to record some of the more striking effects of these vicissitudes on individuals in a state of health: Third, to point out some phenomena indicative of the power of these vicissitudes on individuals in states of disease; and Fourth, some concluding remarks.

Before entering upon the first subject for investigation, namely, the natural phenomena, premonitory to and coincident with such vicissitudes, I beg to state, as my firm conviction, that the vicissitudes themselves, however various and proteiform, are the operations of laws, as fixed and as invariable in their results as the laws which regulate the motions of the heavenly bodies are in theirs. I mention this, because it appears to me an useless task to attempt to investigate such varying phenomena as are presented in the atmospheric vicissitudes, unless we take this truth as our compass to guide us in the labyrinthine journey, which must be travelled in the beneficial investigation of the said phenomena. Our researches, without this, are *empirical*, and can lead to few, if any, beneficial results: with this they are *scientific*, and will be pregnant with benefit.

I. Having noticed this view, I cannot proceed further without stating that we are much indebted to Mr. Daniell for devising an instrument, namely, an *electroscope*, by which one important fact has been established, which is, that *great electrical changes precede great atmospheric vicissitudes*.

But we have *natural electroscopes*: and it is always best to take advantage of the instruments presented to us in Nature, because they are cheap, correct, and universal. The natural phenomena to be noticed are, when known, the best electroscopes: and from this cause we may deduce the explanation of the fact, that country people are generally good judges of the weather.

I have little doubt, that there is no member of this Society who has not been struck, in walking the streets of London, with the

circumstance, that, at times, from the opening of the sewers at the corner of the streets the most noxious effluvia escape; or, walking in the country, the ditches emit the most disagreeable odours. The Commissioners of Sewers are blamed in the one instance, the farmer in the other; whereas, in reality, no one is to be blamed: for these emissions of effluvia are the indications of an approaching change in the weather: and the ditches and the sewers, when scientifically studied, in reference to these occasional rather disagreeable manifestations, assume a prophetic character, highly useful and accurately true.

Previous to, and during these atmospheric vicissitudes, animal remains undergo putrefaction more rapidly. Fermentation proceeds more rapidly. Bread-making, brewing, malting, are facilitated; and very often yeast is blamed or praised as bad or good, when actually the atmospheric conditions should reap the disgrace or the honour.

Vegetation makes more rapid progress previous to great atmospheric vicissitudes.

The influence of atmospheric vicissitudes upon the animal creation is well known. Virgil has given a description, in his *Georgics*, of the peculiar effects upon animals produced by the atmospheric conditions previous to a storm. M. Walbeck has depicted with graphic accuracy the same; and Sir Humphrey Davy, whose mind possessed that beautiful quality, so rare, it is to be regretted, of being able to mix science and simplicity, a love of the useful with the practice of the elegant, has portrayed in his interesting work, connected with salmon-fishing, many of those characteristics exhibited by birds and beasts previous to nature's changes. Dr. Jenner, also, another child of immortality, published "The Signs of Rain," which piece, as Dr. Baron, his biographer states, exhibits much of the minute painting of Cowper or of Crabbe; and shows, in pleasing combination, the accuracy of the naturalist and the fancy of the poet. With the permission of the society I will read it. (Quotation read).

In reference to the more regular atmospheric vicissitudes, we observe many interesting indicative phenomena. Evergreens, on the approach of winter, are covered with a thicker non-conducting coat, evidently to protect their perspirable organs. The moulting season, it is well known, takes place in autumn to prepare the birds for the winter. The horse becomes clothed with a thicker coat at the same period. So well aware are the purchasers of furs of the change of clothing of animals, induced by approaching atmospheric changes, that they refuse to give for the furs of animals killed in the summer the same price as that they give for those taken in the winter.

In the sacred writings a beautiful, even a poetic reference, is made to the influence of the seasons in relation to the migration of

birds: "Yea, the stork in the heaven knoweth her appointed times, and the turtle, and the crane, and the swallow observe the time of their coming."—Jeremiah 8th, verse 7th. String manufacturers find variations of weather have a great effect upon the vegetable fibre. It is well known that one of the hydrometers in common use is the arista attached to the calyx of glasses; although, perhaps, the quotation of Sir E. Smith is correct—

"Unfortunately for the science,
On the awn is no reliance."

II. The next subject, sir, to which I beg to draw the attention of the society, consists of a notice of some of the more *striking effects of these vicissitudes upon individuals in a state of health.*

Every one is aware of the influence of the atmosphere upon the mental and the bodily condition. The most prominent social thought is the state of the weather. Hence, how common are the phrases, "what a dull day;" "what a miserable day!" "a day enough to give the hyps!" "a horrid day!" and, to comple the climax, "what a muggy day!" These are phrases which are repeated without any weariness, because expressing states of feeling which are unconsciously produced in us by the varying atmospherical conditions. In fact, it seems to be a physiological mode of obtaining relief, just as Washington Irving remarks, the traveller is relieved by saying to his fellow-traveller, when impressed by the beauty or the sublimity of scenery, "How beautiful! how grand!"

In reference to this constituent, the weather, in our colloquial discourse, it is worthy of remark, that it is a matter of astonishment to foreigners; in fact, the people of England have been defined by some continental wit as "weather wise." Indeed, this respect for and continued notice of the weather on the one hand, and the non-notice on the other, have been thought as characteristic nationally of the English and the French; in fact, the English have been considered so incommunicable as to be able to talk about nothing else. The philosophic mind, recognizing the fact of the weather, being so important in our introductory colloquials, will inquire the cause, and it will be found that our colloquial discourse being so saturated with the weather, is dependent upon a very rational cause, namely, that the varying state of the weather in this country is so prominent a feature as necessarily to draw such an amount of attention to it; whereas the clear and lightsome sky of our continental brethren produces such a perpetual lightsomeness of the animal spirits as to have aided principally in stamping upon the French character, as one of its most prominent features, MENTAL GAITY.

These remarks bring to remembrance a fact, strikingly illustrative of this particular

point, and, at the same time, of the influence of atmospherical vicissitudes on individuals in a state of health. I am acquainted with an English gentleman, residing in Paris, who visits his friends and relatives in this country twice a year. He states that he always feels oppressed while he is here, and his spirits sink; he feels a peculiar oppression, which is entirely removed on his return. This gentleman ascribed these differences to the different states of the atmosphere in this country and on the continent.

A friend of mine, who suffered from severe *bronchitic* inflammation, went to Paris, and obtained almost immediate relief; he returned to England, and the attack has returned, though in a mitigated form.

In illustration of the atmospherical vicissitudes, connected with elevation, either augmented or diminished, the effects produced upon ascending high mountains must be known to many. The swelling of the limbs of those who have ascended in balloons is well known. It is a curious fact, that, when two travellers meet at Faraquagua, a town midway in the descent from the Table Land of Mexico to the plains below, the one from the plains below, the other from the Table Land above; the former feels the cold so intense that he wraps himself in all the garments he can procure; the latter finds the warmth so great as to feel the slightest clothing oppressive; to the former, the water is so cold that he avoids being sprinkled with it, while the other is so delighted with its warmth that he uses it as a warm bath.

I might give a description of the peculiar feelings experienced during a descent in a diving bell, as illustrative of the peculiar effects produced by the variations in the atmosphere as connected with its pressure; but these are well known, and it is sufficient merely to refer to them.

Again, observe for a moment the influence of the atmospherical vicissitudes at the different periods of a day, and at different seasons of the year. How delightful is the exhilarating feeling inspired by the morning; the placid calmness which the evening or a moonlight scene spreads over the mind; and the sober sadness with which the darkness of night seems to be connected.

Who is the individual that is not aware of the difference of effect produced by the atmospherical conditions in *Spring* and *Autumn*. In the spring all the powers are awakened into activity; the atmosphere gives out electricity: in the autumn the same youngness of life does not exist, and then it is found that the earth and the life therein and thereon give out instead of receiving electricity. Hence, how common is the expression made use of by old people, "Well, if I can get through to the spring, I shall do."

It is well known that in summer the cutaneous secretion is augmented: in winter, the urinary.

Dr. Morrison states that spring and sum-

mer are more conducive to the production of mania: autumn to partial insanity, with depression: winter to dementia.

A period of the year is known under the title of the "dog days," evidently because those days are, more than other periods of the year, productive of canine madness.

And to return to the winter, who is there who has not felt the influence of a clear wintry sky, even in London? how much more in the country, when enlivened by the occupations peculiar to that season of the year?

The most interesting facts, however, connected with atmospheric vicissitudes, are those in relation to the PROCREATION OF CHILDREN.

It is a fact well known that many persons who have lived in a married state in England many years and have had no children, on going to reside in *New South Wales*, obtain the pledges of mutual affection.

I myself have known some striking instances; which, however, are not so striking as those recorded in the following extract of a letter from a friend and pupil of mine, whose father practised in Sydney, and who himself was many years in Sydney:—"The last fact you mention," referring to this circumstance of obtaining children on arriving and residing in *New South Wales*, "I can conclusively confirm, and have in my mind at this instant four or five instances. One occurred in the vessel in which I went first to the colony: the woman was nearly fifty years old, and took a grandchild of five or six years old out with her. She married in the colony a man at least twenty years younger than herself; and had, I know, two, and, I think, three children. I know, also, of two instances in the wives of two officers in the Commissariat Department, in which an interval of upwards of two years had elapsed. Another of fifteen years in a schoolmaster, a Mr. Bradley, and of eight years with the celebrated Dr. O'Halloran. Indeed the fact is so notorious, that if I were on the spot, I should not have the slightest difficulty in furnishing you with the details of numerous instances. In the colony the fact has become a proverb, and is the occasion of many coarse jokes."

In connexion with the influence of climate in developing the procreative power, the well-known facts of the early development of puberty in the people of some provinces of South America; the early bearing of children and the early death of grown-up individuals, are worthy of remembrance.

I know a lady who had been married several years, and who, during her residence in England, had no children. She went to France with her husband, remained there some time; obtained a child: has been returned to England for several years, and though young, has had no children since.

The negroes in the southern states of America multiply, when viewed in relation to the Americans, in the proportion of four

to one; but in the Northern States, that is the New England States, such is not the amount of augmentation. This has been disputed, but the very ground on which that disgraceful institution, the American Colonization Society, is founded, testifies to this as a fact; the fear of the American slave-owners being, that the blacks by their multiplication will outnumber and overpower the whites.

III. I have now, sir, to draw the attention of the society to the *third* point, namely, THE PHENOMENA INDICATIVE OF THE POWER OF ATMOSPHERIC VICISSITUDES OVER STATES OF DISEASE.

In enumerating the facts connected herewith, I shall narrate, first, those so common as to be almost proverbial; second, those having reference to atmospheric influence at different periods, first of the day, and then of the year; and lastly, some generally illustrative of the influence.

In regard to these almost proverbial expressions, indicative of the effects of atmospheric vicissitudes, how common is this: "*Bad weather soon—my corns ache.*"

RHEUMATIC patients, it is well known, are walking barometers; that is, if they can walk. The poor affected joints point as legibly to the wearer, or rather the user of them, every change of weather as his time-piece the change of time. In fact, the weather can be known by his movements.

It is a fact which will be readily acknowledged by those who attend military men who served and were wounded in the late wars, that they are very much troubled in their wounds at every change of weather.

I remember the gallant John Shipp, who, in the siege of Bhurtpore, led several forlorn hopes, and who was almost covered with wounds, suffered much from changes of weather.

Ulcers just healed become worse before changes of weather.

The influence of a particular kind of cold moist weather upon the constitution is well expressed by the common definition of such weather by the title assigned to it, namely, "*ague-ish.*"

There is a gentleman, a pupil of my respected colleague, Dr. Ryan, upon the extremity of one of whose fingers, at every considerable change in the weather, a little black spot appears.

Tumours of different kinds become painful during changes of weather.

In regard to atmospheric vicissitudes influencing diseased states in connexion with the different periods of the day, some few circumstances seem worthy of notice.

One interesting circumstance herewith connected is, that most febrile affections augment in intensity towards the evening. How strikingly is this seen in the remitting infantile fever: the practitioner not aware of the circumstance will appear astonished (which, by the bye, he never should) at the differ-

ence, the injurious difference, between the state of the child when seen in the morning or at noon, and the state when he is sent for in haste to see the child in the evening.

This influence connected with the night is strikingly manifested in cases of *chronic inflammation of the stomach*. The patient goes to bed: no sooner does he lie down than febrile excitement comes on; he turns from one side to another; cannot sleep; prays for the morning, and, perhaps, about four o'clock perspiration appears: he goes to sleep; and when the time of rising arrives, feels quite unwilling to attend to the call. In fact, this circumstance of *evening exacerbation* is one of the most important practical distinctions by which this disease may be known from *irritability* of the stomach; a distinction between these two diseases being neglected has brought, to a certain extent, into disrepute one of the most valuable medicines in cases of irritability of the stomach, namely, *prussic acid*.

This alleviation of disease in the morning has been observed long since; hence the old adage: "*Levato sole, levatur morbus.*"

Almost all *asthenic* diseases are better in the morning, *sthenic* diseases in the evening. A patient of mine, who could not walk during the day on account of the contracted state of the limbs arising from irritation, connected with spinal disease, could walk at twilight in the evening.

Sydenham, in his remarks on chronic and acute diseases, notices the acknowledged fact, that diseases comparatively mild during the day, become worse at night.

Asthmatic patients experience the paroxysm generally at or soon after the hour of midnight.

Epileptic patients are very generally seized in bed.

Humboldt relates the case of a countess at Madrid, who lost her voice at *sunset*, but recovered it at *sunrise*. This defect disappeared on a visit to Naples, but re-appeared at Rome.

Aristotle mentions a tavern keeper who was rational during the day but became insane in the evening.

Boillon relates the case of a woman who passed into a state of insensibility at sunset, but recovered her vigour in the morning.

Ramazzini notices a feature in an epidemic which occurred in 1791, namely, that the symptoms became alarming at sunset, and increased so as to threaten death during the night.

Home and Pringle refer to a fever prevailing among the English troops in Flanders in 1743: in the progress of which it was observed, that no complaint was made *during the day*; but, as the evening approached, the fever became so intense, that the patient was often delirious through the night.

The influence of the night in augmenting diseased states is evidenced by the common expression made by the friends of the sick:

"I fear that he will not get through another night."

The night is particularly favourable to the development of disease. How numerous were the cases of cholera, that developed themselves about four in the morning. Dr. Foote, in his *Inaugural Dissertation on Cholera Indica*, published in 1825, a book which contains the greater portion of almost all the really important facts which have been published on that disease, states that the numerous soldiers, who, in the 17th Regiment of Foot, of which he had the care, were seized with cholera, had remained, on account of the intense heat of the weather, a great part of the night in the open air, and then, when overpowered with sleep, had gone to rest, *proxime fenestris venetianis, ad humum usque pertinentibus*.

In connection with the atmospheric influence as dependent upon that part of the diurnal period, called the night, it seems proper to notice the operation of the *moon*. Lunar influence cannot be disputed. Sleeping on the deck in the moon-light is condemned by almost every nautical man: and when we have learned, as we now have, that the moon's rays consist principally of deoxidizing rays we can readily conceive how malaria and misams are rendered doubly operative under such exposure. Indeed, I have but little doubt from the statements made to me by persons, who have been resident in India, that many of the diseases there so fatal, arise from night exposure. At Sierra Leone, so much spoken against, the soldiers getting drunk lie in the roads at night, and are seized with the fever of the country. The late Governor, Mr. Greene, blamed the civilians for the very great care they took of themselves. He took little care and died.

One incident, which has disturbed the public mind very much during the past month, is worthy of notice in connection with the above. It is *the burning down of the two Houses of Parliament*. This event, viewed medically, I look upon with great satisfaction, inasmuch as it opens up the prospect, that if nocturnal legislation be not done away with, it in future will be conducted under a roof constructed with a greater regard for the health of the members: a matter of the highest importance, when we consider the exalted duties of a legislator and the necessity of the mind being in its best state in order to the proper performance of those duties.

In regard to the influence connected with different periods of the day, it has been observed, that those cases of insanity where delirium occurs at 11 A. M., are the worst and most inauspicious.

Dr. Allen, to whom I am indebted for some of the most interesting facts which I have brought forward, thinks, that even the period of the day at which death takes place is somewhat connected with the atmospherical condition. He thinks that death is most frequent between 2 and 3 in the afternoon.

I cannot say I have made sufficient observations either to prove or disprove this opinion.

Having thus noticed some of the vicissitudes connected with the different periods of the day, those connected with the different periods of the year are to be detailed.

The spring is peculiarly associated with atmospherical vicissitudes; developing existence, as it were, afresh, it is quite natural that its stimulus may induce in weak constitutions morbid manifestations. The rapid changes in temperature that take place in the spring must be attended with definite effects.

Inflammatory disorders generally appear at this period of the year. It is also well known, that *bleeding* is borne better in the spring than in the autumn: a fact, which, however, by no means justifies the practice of habitual bleeding in the spring.

I have a patient, rather of a bilious habit, being in general good health, who is always dyspeptic in 'the spring': and this dyspepsia is attended with giddiness.

Diseases of the *thorax* are generally aggravated in the spring. And, as the vicissitudes in this country particularly preponderate in the spring, we may readily conceive that pulmonary disease, being so intimately dependent for its development upon vicissitudes, will be very common in this country. It is said that no fewer than sixty thousand persons in Great Britain alone annually fall victims to this insidious disease. Sydenham calculated its effects at one-fifth of the entire mortality: later writers raise them to one-fourth, and the London returns for the following years give the following proportions:

| | | | | |
|-------|--------------|--------|-------------|------|
| 1829. | Total deaths | 14938. | Consumption | 4250 |
| 1830 | — | 13583. | — | 4704 |
| 1831 | — | 17560. | — | 4807 |
| 1832 | — | 19285. | — | 4499 |

It is a curious fact that invalids and persons of a delicate constitution feel debility augment in the spring. This is in part dependent, as Dr. Combe has pointed out, upon the injury produced to the constitution by the confinement during the preceding winter. Hence partly may be explained the fact that disease develops itself so much in the spring.

The influence of a spring N. E. wind is peculiarly injurious to the nervous and debilitated: as every nervous individual will testify.

Summer seems to be the period of the greatest excitement. There are more suicides in summer than at any other time. We talk of gloomy November, and ascribe suicidal states of mind to the gloominess thereof; but this is erroneous. The number of suicides in Paris from 1817 to 1826 was 3185, averaging each season as follows: spring 997: summer 933: autumn 627: winter 648.

Apoplexy seems to be more common in the summer; a circumstance dependent upon

the stimulus arising from the augmented heat of this season of the year. It is reported that much apoplexy has occurred during the last two months, most likely on account of the unusual heat.

Epileptic fits seem to increase in the summer, evidently from the increased excitement.

In the summer, the *vaccine* influence takes a more decided hold upon the system. The areola around the vesicle is more decidedly marked.

In the autumn we have diseases connected with the putrid character. Putrid fevers, as they are commonly called, are developed mostly at this period.

Sores which have healed by the first intention in the spring, become *gangrenous* at the autumnal period.

The wet season in autumn, is, in India, the period when epidemic diseases most frequently develop themselves, more especially after a hot summer. I might illustrate this by referring to the great mortality that prevailed among the British troops in Arracan in the year 1825; at Rangoon in 1824; and, finally, to the breaking out of the cholera in India; but these matters I hope to investigate more fully at another season.

Diseases of the viscera of the *hypogastric* region are aggravated during autumn and winter.

I now, sir, have to notice some GENERAL FACTS, illustrative of *atmospheric vicissitudes*.

The first class of circumstances to be noticed consists of those relating to *occupation*. It is well known that the peculiarly confined states of atmosphere, in which the manufacturing class exercise their calling, are very injurious to health. In illustration, I shall refer to some facts which are recorded in that unique and valuable work of the late Mr. Thackrah, on the Effects of the principal Arts, Trades, and Professions on Health and Longevity. This gentleman shows from Parliamentary Returns, that the duration of human life is less in the West Riding of Yorkshire, the manufacturing district, than in the other Ridings. And, in order more fully to prove that the *manufacturing coincidence*, if we may so term it, and not the climate simply is the cause of this augmented mortality, he took two towns in the same Riding—Pickering Lythe, in an agricultural district, and Leeds, a manufacturing town. The population of the former in 1831 was 15,232; the burials 205; the average of deaths 1 in 74; of the latter, the population 83,796; the burials 1516; making one death in every 55 persons. Mr. Thackrah intimates that 450 persons die yearly in Leeds from the injurious effects of manufactures. And to these may be added the additional fact, that just in proportion as the manufacture is attended with the development of any matter peculiarly destructive, so is it deadly. The "Sheffield rot" is a phrase

applied to the consumption to which knife-grinders are particularly subject.

The second class of general circumstances illustrative of the influence of atmospheric vicissitudes will consist of facts relating to *changes of air*, as it is commonly called.

A lady consulted me, a short time since, who has been labouring for years under *chronic inflammation of the bowels*. This lady finds her health always better in London than in the country. The country air invariably brings on dysentery.

It is a curious fact, that cases of consumption are not comparatively so numerous in towns as in the country; and the progress to death is not so rapid in towns as in the purer air of the country and mountains.

Asthmatic affections are very curiously modified by atmospheric vicissitudes. The London asthmatic often derives much benefit from a visit to the country; and I have a patient who leaves his home in the country to come up to town to consult me in reference to his asthma, but who feels so much better directly he arrives in London, that he goes back without allowing the fee to reach the "*ultima thule*," namely, my pocket. It is further a curious fact, of which I was informed by an intelligent working barometer and thermometer maker, Mr. Clark, that the barometer, during those severe fogs that prevailed about three years ago, stood at 33 and 34 deg.

The influence connected with change of air is well exhibited in the treatment of *hooping cough*. A child, having the hooping cough, is often sent away from the warm atmosphere of London to the cold atmosphere of the country, because change is sure to do good; whereas, from want of wisdom in the regulation of the change, it often happens that death most effectually cures.

The next class of facts, illustrative of the general influence of atmospheric vicissitudes, relates to the *insane*.

The insane, not having that moral or intellectual restraint over themselves, which the sane possess, are necessarily liable to be more readily influenced by atmospheric vicissitudes. Dr. Allen has often predicated a change in the weather by the unsettled state of the insane. This gentleman has further remarked, that the insane became very unsettled during the appearance of northern lights, meteors, and all unusual celestial phenomena.

Indeed, Dr. Allen considers that the paroxysms of chronic insanity are merely exhibitions of the irregular increase of the stock of animal spirits of the patients, dependent upon the varying atmospherical conditions, and not, as Dr. Halloran considers, exacerbations or new accessions of the original diseases.

Dr. A. states in addition, that in some insane patients, during the violence of the paroxysm, the hair was brushy and bristling, like one electrified. One female fancied

she was bewitched, because she perceived a crackling and slight flashes of fire, when the conducting and non-conducting parts of her dress were separated from each other.

The last class of general circumstances indicative of the effects of atmospheric vicissitudes to which I shall refer, consists of those connected with the development of the Cholera Asiatica (as it was called) in this country.

Professor Jamieson, of the University of Edinburgh, the Professor of Natural Philosophy, stated in the year 1830 to his class, that there "never had, since the destruction of Jerusalem, been seen such appearances in the heavens as during the present period." Now, let us connect this fact with its explanation; viz. that these appearances must have been the results, in a great measure if not wholly, of variations in the state, perhaps electrical, of the atmosphere: and then remember, that at this period was developed a disease, new to this country, and we shall have opened to us a wide field for inquiry. This disease was CHOLERA, and it is curious to remark, that Dr. James Johnson, whose tact in observation we all are willing to allow, considered that this disease was dependent for its manifestation upon a *contamination of the air we breathe*, by some cause or causes connected with the bowels of the earth; a cause which Sydenham considered was that originating the epidemic of 1775.

I intended, sir, to bring before the society the consideration of the Plague in the East, the Plague of London, and the various epidemics which have prevailed in this country and in other countries; but, having found that it would be impossible to do justice either to the subject or myself in one meeting of the society, I have determined, at some future occasion, should the society approve, to communicate to the society the result of my observations on this most interesting subject.

I shall, however, take the liberty of stating the plan which I have adopted in the investigation of this important matter, as this will enable the members to point out any improvements in the mode of investigation, and also will enable them to aid me more efficiently in preparing materials so as to render me able to fulfil the duty, which, as long as I am a member of this society, I consider belongs to me as such, namely, to do all I can to promote the growth of the society, by presenting to and receiving from it food such as is calculated to develop the objects of its institution.

The method then is, to collect the histories of all the epidemics that have occurred. To obtain at the same time meteorological information regarding the state of the atmosphere before the developments of these, and also a knowledge, so far as we can, of all the *accessory* circumstances connected with the developments: to classify the facts: to

observe these circumstances constantly coincident, and to separate them from those casually coincident; and then, finally, by the aid of chemical science, to draw out from the amorphous mass those primitive forms, which will indicate to us the LAWS which regulate the production of the epidemics.

In fine, Sir, it is necessary ever to remember one prominently beautiful among the many beautiful sentiments of Cicero; it occurs in the Tusculan questions; "Nihil potest esse æquabile quod non a certa ratione proficiscitur."

IV. I shall now conclude BY SOME GENERAL REMARKS, which may be considered as conclusions.

1. That as the atmospheric vicissitudes have such decided effects both on states of health and of disease, it is evident, that, in many cases a change of climate may be attended with the greatest benefit.

2. That as climate is not dependent wholly upon altitude or latitude, or position in regard to the sun, there is not a necessity, in every case, to go to a foreign land to obtain a change of climate.

3. That the benefit to be derived from a change of climate is proportioned to its deviation from the state of the climate in which the person had been previously placed: that is, understanding at the same time, that

these deviations are of such a nature as to be friendly to the diseased state.

4. That it is a desirable matter of research to ascertain those places in England, both inland and on the coast, where the atmospheric conditions are peculiar for general mildness, and for the non-production of certain diseases.

5. That in order to obtain the full benefits in regard to health, to be enjoyed in any country, the subjects, generally comprised under the improper title, "Medical Police," must be more fully investigated, and information on them more generally spread. How many hundreds of British subjects have been destroyed in India and elsewhere by the ignorance both of the rulers and the ruled!

Such, Mr. President, is an imperfect view of an important matter; and I am thankful that the existence of the Westminster Medical Society has been the means of directing my attention to this subject. A society for the communication and the reception of instruction, when conducted with the spirit suited to effect such desirable objects, is one of the noblest manifestations of the mutual co-operation, and the elevated mental and moral condition, exhibited under and existing in, THE REPUBLIC OF LETTERS.

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